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EXPERIENCE REPORT

Elaboration of a flowchart for the transport of patients to a center specialized in COVID-19

Elaboración de un diagrama de flujo para el transporte de pacientes a un centro especializado en COVID-19

Elaboração de um fluxograma de transporte de pacientes para um centro especializado em COVID-19

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Abstract

The aim was to describe the construction and implementation of a flowchart of inter-hospital transport of patients to a center specialized in the care of COVID 19. Descriptive study, type experience report carried out by nurses in a teaching hospital specializing in cardiopneumology in São Paulo, from March to April 2020. Based on national and international recommendations for patient care and safety, a flowchart for transporting these patients to a center specializing in the care of COVID was created and implemented19. The implementation of the transfer flowchart optimized the flow of care, standardized related activities, and contributed to the safety of patients and professionals.

Descriptors: Nursing Services; Patient Transport; Workflow; Safety Management; Nursing Care.

Resumén

El objetivo fue describir la construcción e implementación de un diagrama de flujo de transporte interhospitalario de pacientes a un centro especializado en la atención de COVID 19. Estudio descriptivo, tipo relato de experiencia realizado por enfermeras en un hospital universitario especializado en cardioneumología en São Paulo, de marzo a abril de 2020. A partir de las recomendaciones nacionales e internacionales para la atención y seguridad del paciente, se creó e implementó un diagrama de flujo para el traslado de estos pacientes a un centro especializado en la atención de COVID19. La implementación del diagrama de flujo de transferencia optimizó el flujo de atención, estandarizó las actividades relacionadas y contribuyó a la seguridad de pacientes y profesionales.

Descriptores: Servicios de Enfermería; Transporte de Pacientes; Flujo de Trabajo; Gestión de Seguridad; Atención de Enfermería.

Resumo

Objetivou-se descrever a construção e a implementação de um fluxograma de transporte inter-hospitalar de pacientes para um centro especializado no atendimento ao COVID 19. Estudo descritivo, tipo relato de experiência realizado por enfermeiros em um hospital de ensino especializado em cardiopneumologia de São Paulo, no período de março a abril de 2020. Com bases nas recomendações nacionais e internacionais para a assistência e segurança do paciente, foi elaborado e implementado um fluxograma para transporte destes pacientes para um centro especializado no atendimento ao COVID19. A implementação do fluxograma de transferência otimizou o fluxo de assistência, padronizou as atividades relacionadas e contribuiu para a segurança de pacientes e profissionais.

Descritores: Serviços de Enfermagem; Transporte de Pacientes; Fluxo de Trabalho; Gestão da Segurança; Assistência de Enfermagem.

Introduction

Infection with the new coronavirus 2019 (COVID-19) is a viral respiratory disease that originated in China in late 2019, possibly originating from bats. It is known that this virus has spread rapidly around the world and in March 2020 the infection by COVID-19 was characterized by the WHO as a pandemic[1,2].

It is known that currently, the nosological pattern of a country is interfered with by another country, even if geographically distant, as people are always in transit and interacting. This causes epidemics to quickly evolve into pandemics[3].

COVID-19 infection is transmitted mainly through contact with respiratory droplets, aerosols, and the conjunctiva. The clinical spectrum of COVID-19 in adults ranges from asymptomatic infection to severe pneumonia and fatal illness. The main clinical symptoms include fever, cough, shortness of breath, myalgia and 10 to 20% of patients develop acute respiratory distress syndrome[4-6].

Symptoms of respiratory syndrome range from mild and transient discomfort to more severe cases such as pneumonia, SARS and septic shock[4,5]. So far, the most common complications reported are: Severe Acute Respiratory Syndrome - SARS (17-29%), acute cardiac injury (12%) and secondary infection (10%). The lethality among hospitalized patients varies between 11% and 15%. With the possibility of progression to respiratory distress syndrome, patients admitted to wards often need rapid transfer to a specialized Intensive Care Unit (ICU), as well as patients admitted to common inpatient units and who develop suspicious symptoms need to be transferred to units of hospitalizations reserved for the isolation of these patients. Thus, transfer strategies need to be planned and efficiently executed to avoid further harm to the patients' health status and environmental contamination[6].

Several national and international protocols have been published to guide institutions and health professionals in relation to best practices for the management of suspected and confirmed cases of contamination by COVID-19. These protocols consist of strategies that include guidance for organizing specific isolation beds, restricting the movement of people in these areas, as well as transferring and transporting confirmed cases to specific treatment centers[6-12].

An important strategy proposed by specialists is the centralization of critically ill patients with COVID-19 infection in specialized hospitals. Potential benefits of this centralization may include better and more efficient use of scarce resources and better clinical outcomes[5]. However, these benefits must be evaluated and considered along with the risk of inter-hospital transfer. It is recommended that the health team be involved in the transfer, planning, screening, evaluation, and escort of patients[13-15].

In this sense, it is important that protocols guide strategic planning and provide logistical support to minimize possible risks. It is known that it is imperative to adopt and adapt measures to use standard precautions for all patients, including, in addition to precautionary measures by contact, droplets and aerosols that must be adopted in the care of suspected cases, other administrative, environmental, and engineering must be maintained even after the patient leaves the health unit[12,14,15].

Nurses play a key role in all stages of the transfer process. It is up to him to plan the Systematization of Nursing Care and ensure quality care throughout the process, from the transportation planning stage to the admission of the patient to the other service[10,11].

Thus, it is up to the nurse to assess their general condition, anticipate possible instabilities and complications in their health status, check the provision of necessary equipment for assistance during transport, predict the need for surveillance and therapeutic intervention during transport, assess the distance to go through, possible obstacles and time to be spent to the destination, select the means of transport that meets the patient's safety needs, define the nursing professionals who will assist the patient during transport (according to the complexity of the care required) and ensure communication between the unit of origin and the patient's receiving unit, in an objective and effective way[8,12].

Thus, due to the demand for transfers of patients from an inpatient unit of a cardiopulmonology hospital to a center specialized in COVID-19, there was a need to standardize a transport flow for the entire hospital through a protocol that met the safety needs of the patient and health professionals and would guide everyone involved in the process in a clear and objective manner.

This paper aims to describe the experience of nurses in implementing the flowchart for transporting patients with COVID-19 from a teaching hospital specializing in cardiopneumology to a center specialized in COVID-19.

Methodology

Descriptive study, type experience report carried out by nurses in a teaching hospital specializing in cardiopneumology in São Paulo, from March to April 2020. The flowchart was carried out in three stages: situational diagnostic assessment and problem identification, discussion with the group of nurses of the unit, grouping and categorizing the problems raised, elaboration and application of the flowchart in practice.

Experience Report

Steps for designing and implementing the flowchart

Situational Diagnostic Assessment

The pandemic process caused by the new human coronavirus (COVID 19) has been a matter of great concern worldwide. Several services had to adapt and readjust their activities to meet this new and current growing demand from patients due to this infection that has affected populations around the world[2,4].

The hospital specialized in cardiopneumology in question is part of a hospital complex composed of Institutes each with its own specialty [Central Institute, Children's Institute, Heart Institute, Psychiatry Institute, Orthopedics and Traumatology Institute, Radiology Institute and Institute of Physical Medicine and Rehabilitation (IMREA)] and 1

Auxiliary Hospital of Suzano (HAS) which is a back-up hospital for the Institutes.

This Institute specializing in cardiopneumology, which is structured to provide specialized care to patients with cardiac and pulmonological conditions in both the clinical and surgical areas, started to receive patients from other specialties from the Central Institute and to transfer all patients infected with COVID-19 to the Central Institute, which was intended exclusively for the care of patients contaminated by COVID-19.

For this, it was necessary for this teaching hospital specializing in cardiopneumology to undergo rapid adaptations due to the urgency of the pandemic and one of the structures was the adaptation of a Medical Clinic Unit, with capacity for 16 beds, which was transformed into an appropriate unit. to receive suspected cases from COVID-19, concentrate suspected patients to optimize resources, assist and carry out the testing of patients and transfer confirmed cases to the specialized care center. The choice of this unit was since all rooms are individual, favoring the contact and respiratory isolation strategies necessary for this type of patient[7,12].

Faced with this new challenge, it was up to the nursing team to structure the entire unit, train professionals and start care services soon. This study reports the experience of nurses who worked structuring the sector to meet this new demand.

At this stage, due to the urgency of structuring this unit and establishing new work organization routines, difficulties were identified in the process of planning and transferring patients with a confirmed diagnosis of COVID-19 to the specialized center, as there are no specific institutional protocols for this flow to standardize the work of professionals.

It was observed that, initially, the transfers of patients to the center specialized in COVID-19 took about 2 (two) hours, as the professional did not have a standardization by stages of the workflow, in addition to spending time in search of correct telephone extensions to request a bed at the reference hospital, request transport via ambulance and contact the Nurse at the destination hospital to pass on the patient's case, all these difficulties generated delays in care, an increase in the work demand of professionals health due to lack of standardization and delay in the availability of beds, since bed vacancy was hampered.

Thus, it was observed that the biggest problem was the lack of standardization of the transfer flow of these patients. In addition, it can be observed that failures in the communication process generated delays in care, work overload for professionals and stress on the healthcare team. work, which tried to carry out this transfer as quickly as possible but could not be due to the time it spent on the process.

Grouping and categorization of reported difficulties

A situational diagnostic step was carried out based on observation and recording of the difficulties experienced by professionals when transferring confirmed patients to the specialized center of COVID-19. For this step, a field diary and discussion between the nursing teams of each shift was carried out.

This discussion took place between March and April 2020, at the same time as the unit started to receive patients suspected of COVID-19 from all hospital inpatient units.

When experiencing these difficulties in practice, the nurses engaged in the construction of the flowchart began to discuss the difficulties faced with the teams of doctors, nurses, and nursing technicians. Such discussions took place during the shift change and then the notes were grouped and categorized into:

- Lack of standardization of the transfer process: professionals spent a lot of time on the phone, looking for the correct extension to request the inpatient space at the reference hospital, the correct extension to request the ambulance that would be responsible for transport, the correct extension to enter contact the Nurse responsible for the destination bed to inform about the clinical conditions of the patient to be transferred, as well as what were the correct steps in a systematic way to perform this transfer, that is, what is the correct sequence of these tasks to optimize the time of this transport.
- Doubts about PPE in the transport of these patients: professionals had frequent doubts about the correct use of Personal Protective Equipment (PPE) suitable for professionals and for patients who would be transferred, during transport, even after training prepared by the Commission of Hospital Infection Control.
- Inadequate registration and information: inadequate or insufficient completion of the documentation necessary to ensure continuity of care in another service, considering that patients came from both the Unified Health System (SUS) and the supplementary health system (covenants and private individuals). Lack of knowledge of the necessary forms created stress among the team, in addition to the delay in transferring and vacating the bed to care for other patients.

After the problem diagnosis phase, the Nurses highlighted the need to elaborate and implement a specific flowchart for this purpose.

Elaboration and implementation of the Flowchart

Patients admitted to the clinical-surgical unit dedicated to suspected cases of COVID-19 await the test result, as soon as a positive result is confirmed via a computerized system, follow the flowchart for transfer to the service specialized in the treatment of COVID-19.

The elaboration of the flowchart was based on national recommendations to systematize the transfer and transport[7] of these patients to include the following items: better verbal communication, better written record, standardization for the proper use of PPE and care in the transfer of patients (according to with the degree of complexity and/or severity) to minimize the delay and risks inherent in the transfer and transport process.

Results

Figure 1 represents the flowchart prepared for the transport of patients to the specific care center for cases of COVID19, which was incorporated into the Institutional Standard Operating Procedure.

Figure 1. Flowchart of Transport of Patients to the Central Institute. São Paulo, SP, Brazil, 2020

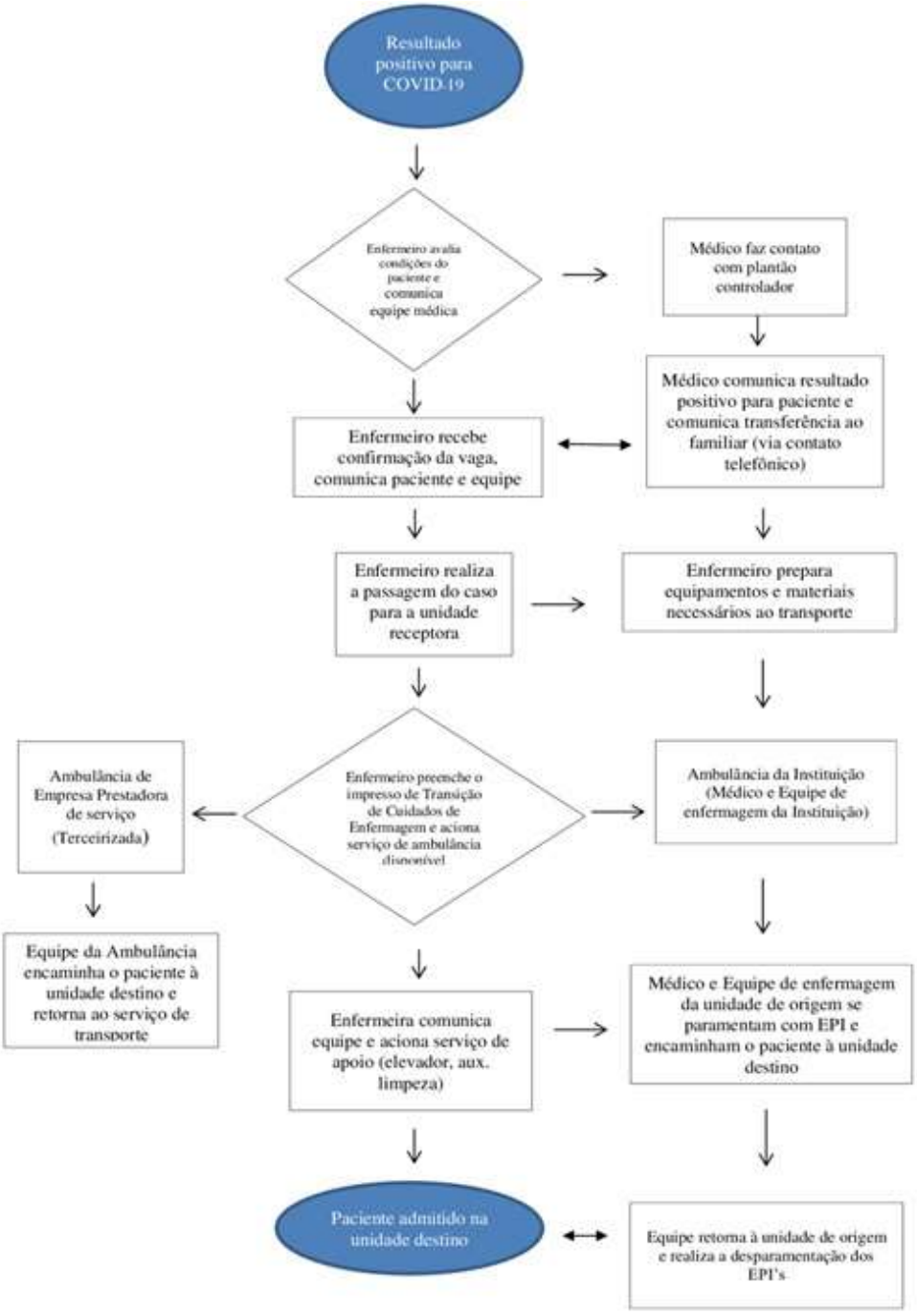
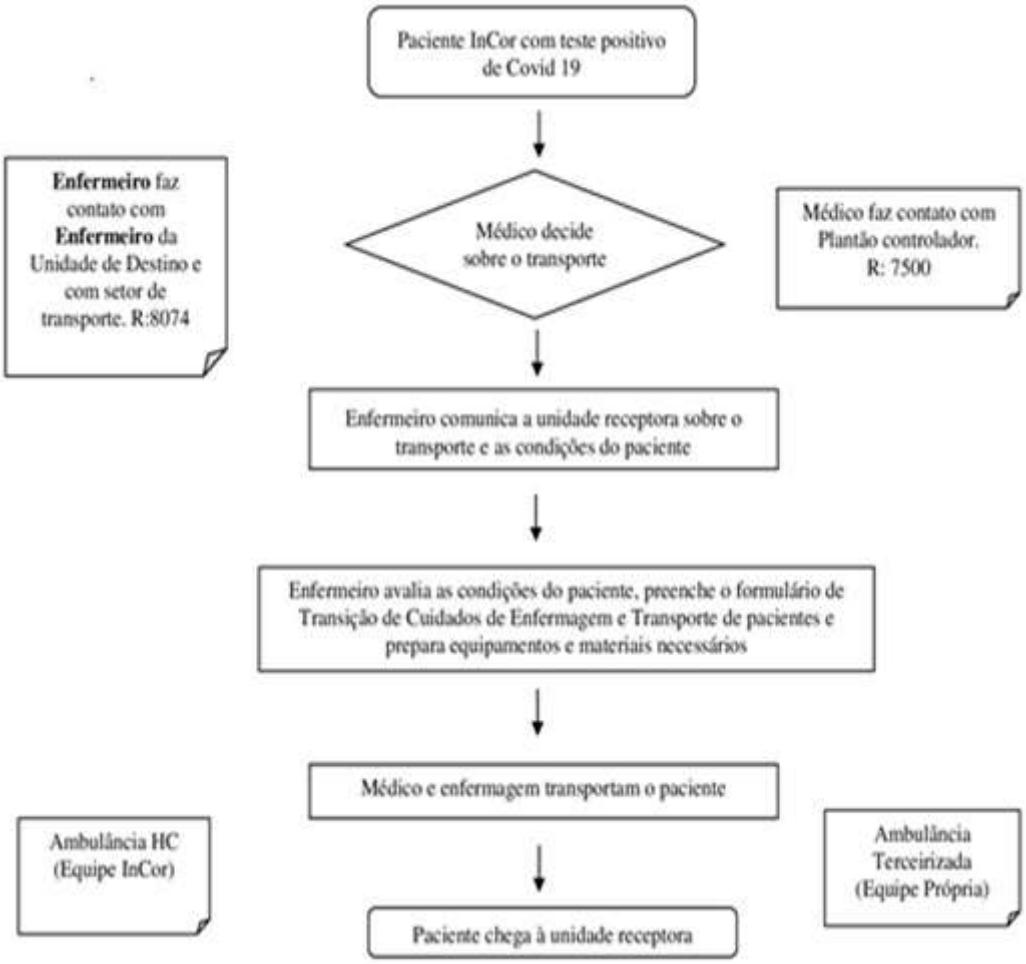


Figure 2 represents the flowchart adopted by the Institution and contained in the Standard Operating Procedure.

The Nursing Care Transition is already a standardized form at the institution used to record the patient's clinical conditions at the time of transfer, as well as data necessary for the arrival of this patient at their destination unit, such as the number of the bed to be sent and the name of the professional Nurse who was responsible for receiving this patient's data and who accepted the case, when this information was passed on by telephone. During this process of standardization of the transfer flow, it was of fundamental necessity as it guided the team with correct patient data during transport. Personal Protective Equipment (PPE) used by professionals to transport these patients include disposable impermeable gowns, procedure gloves, caps, N95 or PFF2 mask goggles and, if available, a face shield. On the other hand, transported patients must wear a disposable waterproof apron, protective gloves, and a common surgical mask.

Figure 2. Institutional Flowchart for Transporting Patients to the Central Institute. São Paulo, SP, Brazil, 2020



Source: Adapted from Zerbini Foundation – InCor HCFMUSP [16].

The outsourced ambulance is not always available, but when present, it has its own doctor and nurse team, thus it is not necessary for the hospital staff in question to monitor the transport of these patients. However, when the outsourced ambulance is not available, it is necessary to use the Institution's ambulance, and the unit's own doctor and nurse team monitors the patient's transport to the destination bed at the center specialized in the care of COVID-19.

Contributions to practice

It was observed that before the implementation of the flowchart, the time taken between the request for a vacancy and the arrival of the ambulance to carry out the transfer of the patient was around 2 hours, plus the need for rework due to failure to fill out appropriate forms and the need of revalidation of information caused by the absence of protocols and familiarity with the receiving unit, which caused discontent among professionals, as this transfer activity generated anxiety and insecurity because there was no systematic standardization that would guide the practice.

After the implementation of a flowchart, which covered all the systematized phases of how to transfer these patients, the average time between requesting a vacancy to the controller shift and the arrival of the ambulance to transport these patients was reduced to about 40 (forty) minutes, excluding cases where a place in the specialized hospital was not available at that time.

In addition, the medical and nursing teams reported feeling safer in carrying out these transfers, as before there was no standardization and, therefore, each team performed this task in a different way, generating doubts and uncertainties about what would be the best practices.

The moment of transferring these patients is delicate for the entire team, as it involves, in addition to the need for safety techniques with protection against virus contamination by professionals, there is still a need to pay attention to environmental safety techniques in the common areas where this patient will travel, such as elevators, ambulance, departure from the hospital of origin, arrival at the hospital specialized in COVID-19, admission of this patient in their destination bed until the return of this team to the hospital of origin, to give continuity of care for other patients.

Safety management measures (environment, professionals, and patients) and infection prevention are planned even before the patient arrives at the destination unit[13,14].

Due to the immediate need to implement the flowchart, it was not possible to systematically and quantitatively assess the time spent before and after the transfer, as well as the reduction of adverse events related to this practice.

Final Considerations

The elaboration of the flowchart took place from the discussions and identification of the problem. The flowchart was prepared by the nurses of the unit in question, which strengthened the team spirit and led to the perception of the importance of organizing work processes.

The implementation and standardization of a transport flowchart streamlined the transfer process, optimizing the time spent and greater safety, as the professionals involved (doctors and nursing staff) started to guide their practices from the elaborated flowchart, allowing the execution activities quickly, systematically, and safely, avoiding delays and incidents. In addition, the elaboration of the flowchart led to the elaboration of the Standard Operating Procedure (SOP), favoring the qualification and training of other professionals who are working on the front line of care for these patients.

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